

What need is the MATREX Simulation Initialization addressing?

In the past, most organizations supported dedicated simulation programs. Considerable pre-exercise effort was required to enable the collaboration of multiple simulations.

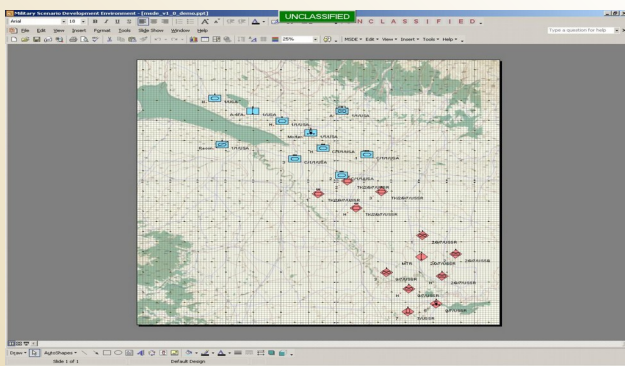
Twelve to eighteen months of pre-exercise effort was not uncommon for some DoD Joint training events involving multiple, dissimilar simulations.

Accordingly, DoD has identified "rapid scenario generation" as a top Modeling and Simulation (M&S) priority.

The MATREX program reduces the time and cost associated with experimentation by providing a mechanism to allow initialization from a common point in a standardized format.

The value of this approach is that configuration management is simplified and data consistency is ensured through this approach. This prevents time-consuming errors that bog down integration and testing of distributed simulation architectures.

How is the MATREX Simulation Initialization addressing this need?



MSDL employs the eXtensible Markup Language (XML) to specify characteristics of a military scenario.

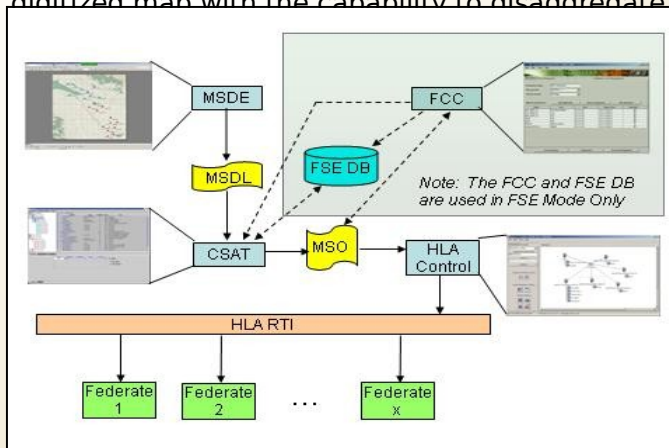
It is designed to be independent of the simulation specific data, and is therefore independent of any particular simulation. Elements of the MSDL schema

Include:

- Equipment definitions
- Unit definitions
- Force structure
- Force laydown

MATREX uses the Military Scenario Development Environment (MSDE) to generate data in an MSDL

format. MSDE allows placement of units on a digitized map with the capability to disaggregate



While scenario data is available through MSDL, additional simulation specific data is also needed to initialize a distributed simulation; this includes simulation configuration data, display options, data logging options and other parameters not directly associated with the scenario.

To accommodate the full set of data needed to initialize a distributed simulation, MATREX has developed a tool called the Configuration and System

Administration Tool (CSAT). CSAT ingests a scenario produced in MSDL format and allows a user to supplement the scenario data with simulation configuration data. The output of CSAT is then

used to initialize the models within a simulation.

Get the right M&S technology to the right place, at the right time, for the Decision Maker and the Warfighter.

Who is benefiting from the MATREX Simulation Initialization?

- Research, Development and Engineering Command
 - AMRDEC (JAMUS Federation)
 - CERDEC (C4ISR OTM Federation)
- Brigade Combat Team Modernization (formerly FCS)
- TRADOC (BLCSE Federation)

Benefits (Why) of using the MATREX Simulation Initialization?

- Quickly and efficiently generates both tactical scenario and HLA Federation instantiation reader files in standardized formats
- Initializes HLA Federates from a common point
- Minimizes both manual input and configuration conflict errors
- Simplifies configuration management and increases data consistency
- All simulation environments that employ the MATREX standard for scenario and federation reader files have access to all other MATREX initialization compliant scenarios

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Acronyms List	
AMRDEC	= Aviation & Missile Research, Development and Engineering Center
ARL	= Army Research Laboratory
BLCSE	= Battle Lab Collaborative Simulation Environment
CERDEC	= Communications-Electronics Research, Development and Engineering Center
CSAT	= Configuration and System Administration Tool
C4ISR	= Command & Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance
DoD	= Department of Defense
FCS	= Future Combat System
JAMUS	= Joint Aviation and Missile Unmanned Systems
LSI	= Lead System Integrator
MATREX	= Modeling Architecture for Technology, Research and Experimentation
MSDE	= Military Scenario Development Environment
MSDL	= Military Scenario Definition Language
OTM	= On-the-Move
RDECOM	= Research, Development, and Engineering Command
TRADOC	= Training and Doctrine Command
XML	= eXtensible Markup Language

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